



U.S. Department of Energy
Office of Civilian Radioactive Waste Management



DOE/NRC Quarterly Management Meeting

Rockville, Maryland

November 22, 2004

Agenda
DOE/NRC Quarterly Management Meeting
November 22, 2004
10:00 AM – 3:00 PM (ET)
7:00 AM– 12:00 PM (PT)

U. S. Nuclear Regulatory Commission
Room T2B-3
11545 Rockville Pike
Rockville, MD

And via Videoconference to:

Bechtel SAIC Company, LLC
Room 915
9960 Covington Cross
Las Vegas, Nevada

Center for Nuclear Waste Regulatory Analyses
Bldg. 189, Conference Room B232
6220 Culebra Road
San Antonio, TX

*INTERESTED PARTIES MAY PARTICIPATE VIA TELECON BY CALLING 1-800-638-8081 or
301-231-5539, Passcode 6812#*

10:00 AM	Introductions/Opening Remarks	All
10:15 AM	NRC Program Update	NRC
10:45 AM	DOE Program Update	Chu
11:00 AM	Yucca Mountain Project Update	Arthur/Mitchell
12:00 PM	Lunch	All
1:00 PM	License Application Status	Ziegler
1:30 PM	Transportation Casks Capability Assessment	Lanthrum
2:00 PM	QA Program Update	Brown
2:30 PM	Action Item Status	Gunter
2:40 PM	Public Comments	All
2:55 PM	Closing Remarks	NRC/DOE
3:00 PM	Adjourn	



U.S. Department of Energy
Office of Civilian Radioactive Waste Management



License Application Status

Presented to:
DOE/NRC Quarterly Management Meeting

Presented by:
Joseph D. Ziegler
Director, Office of License Application and Strategy
Office of Repository Development
U.S. Department of Energy

November 22, 2004
Rockville, Maryland

Topics for Discussion

- **Progress Towards License Application (LA)**
 - **LA Preparation**
 - ◆ **Models/Regulatory Integration Team**
 - ◆ **Preclosure/Design Integration Team**
 - ◆ **Management Review of the LA**
 - **Key Technical Issue (KTI) Agreements**
- **Recent Interactions**
- **Accomplishments**



Progress Towards License Application

<u>COMPONENT</u>	<u>% COMPLETE (July Data)</u>	<u>% COMPLETE (Oct Data)</u>
KTI Agreements Addressed	85%	100%
LA Document	59%	83%
Preclosure Safety Assessment	99%	83%
TSPA-LA	81%	81%
Design	<u>79%</u>	<u>92%</u>
 TOTAL WEIGHTED % COMPLETE	 79%	 87%



License Application Preparation

(as of November 12, 2004)

- **Regulatory Integration Team**
 - Phase I reviews produced 3733 action items
 - ◆ 3576 have been closed, remainder to be closed by the end of the CY
 - Phase II almost complete; 4 steps – drafting, checking, 2.14Q review, approval
 - All 89 through checking, 81 of 89 approved as of November 15, 2004
 - Remaining 8 approvals planned by the end of November
 - Number of datasets/codes/models now stabilized
 - Quality metrics indicate that the RIT process has been effective
 - ◆ Insignificant number of new issues or unresolved items found during checking
 - ◆ Overall quality assessment exceeded pre-established goal



License Application Preparation

(Continued)

• Preclosure/Design Integration Team

- A new team has been formed to ensure the preclosure safety basis is well defined, understandable, complete, and reflected in an integrated manner in LA support documentation
- The team has identified potential discrepancies between the LA and supporting preclosure documentation. Over 40 percent have been resolved as of November 12, 2004
- 50 design and preclosure safety analysis documents are being processed
 - ◆ 46 have been drafted
 - ◆ 39 have been checked
 - ◆ 15 have been reviewed
 - ◆ 13 have been approved
- Documents are planned for completion in December 2004



License Application Preparation

(Continued)

- **Management Review of LA**
 - A joint DOE/BSC review of completeness of the LA was conducted during the month of September
 - Transparency and traceability needed improvement in some areas of the LA
 - Another revision of the LA is under review in DOE

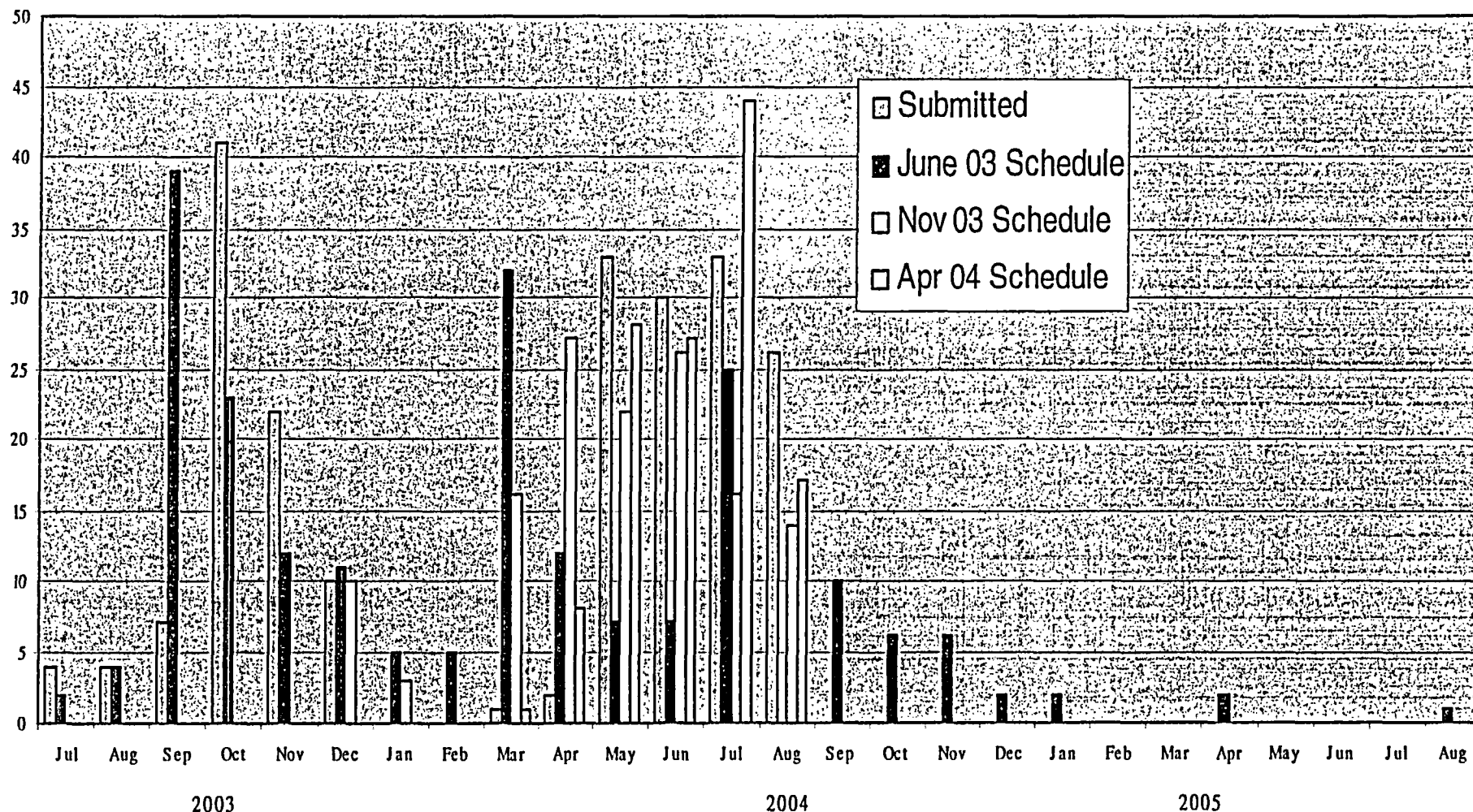


Key Technical Issue Agreement Status

- All of the 293 agreement responses were submitted as of August 31, 2004
- 124 of 293 agreements are considered complete by the NRC as of November 15, 2004
- Continuing dialogue with NRC technical staff and the Center to assist in completing the reviews



Key Technical Issue Agreement History



Recent Interactions

- **September 14-15, 2004, DOE/NRC Technical Exchange on Yucca Mountain Surface and Subsurface Facilities**
 - Approach is to design for prevention of event sequences (rather than mitigation)
 - Classification of systems, structures, and components as Important to Safety methodology was discussed
 - The Preclosure Safety Analysis was summarized
 - Each proposed facility was discussed as well as flow paths of material through the facility
 - October 8 letter reiterates NRC's expectations on content requirements for the LA
- **September 29, 2004, Quality Assurance (QA) Technical Exchange re: revisions to the Quality Assurance Requirements and Description (QARD)**



Accomplishments

- Submitted all KTI Agreements by August 31, 2004
- Regulatory Integration Team activities – nearly complete
- Substantial progress of Preclosure/Design Integration Team in identifying and fixing discrepancies in LA support documentation
- Completed a comprehensive management review of the LA
- Data qualification, software verification, and model validation – essentially complete





U.S. Department of Energy
Office of Civilian Radioactive Waste Management



Transportation Cask Systems Acquisition

Presented to:

DOE/NRC Quarterly Management Meeting

Presented by:

Gary Lanthrum

Director, Office of National Transportation

Office of Civilian Radioactive Waste Management

U.S. Department of Energy

November 22, 2004

Rockville, Maryland

Introduction

- **Office of National Transportation (ONT) has made steady progress in establishing the groundwork to acquire transportation cask systems**
- **Today, I will address:**
 - **The Office of Civilian Radioactive Waste Management's, (OCRWM's), approach to acquiring cask systems**
 - **Cask integration efforts to ensure compatibility with Yucca Mountain surface facilities and with shipping sites**
 - **Capabilities of commercially available casks to accommodate commercial and DOE spent fuel**



Cask System Requirements

- **ONT is focused on using existing cask designs and Certificates of Compliance (CoC) where possible for its transport casks**
- **ONT has a preference for cask systems that provide the maximum flexibility in terms of facility and fuel compatibility**



Cask Integration with the Repository

- **Transportation cask acquisition is being coordinated with Yucca Mountain to ensure compatibility with surface facility requirements**
- **Final decisions on the suite of casks required for both transportation and an aging facility's requirements have not been made**
- **Continued integration planning efforts will be undertaken to reduce the number of new casks for NRC review and certification**



Cask Capability Assessment Reports

- **ONT purchased cask capability assessments from vendors possessing NRC CoC's**
- **Vendors are now familiar with DOE's spent nuclear fuel (SNF) and high-level radioactive waste (HLW) data**
- **Meetings held in late August and early September provided an opportunity for vendors to discuss the data and their ability to meet ONT's needs**
- **Preliminary summaries of vendor data indicated that about 60 percent of the fuel available for shipment in 2010 could be accommodated by existing casks and CoC's**



Casks with Existing Certificates

Cask Models Having Current Transport Certificates of Compliance		Storage-Only Cask Models, which May Receive Certification for Transportation	
MODEL	C of C No.	MODEL	C of C No.
NAC-LWT	9225	TN-BRP	9202
GA-4	9226	TN-REG	9206
GE-2000	9228	TN-40	72-0010
NAC-STC	9235	CASTOR V-21	72-1000
MP-187	9255	Westinghouse MC-10	72-1001
HI-STAR-100	9261	CASTOR X-33	72-1018
NAC-UMS	9270	NAC-128S/T	72-1020
TS-125	9276	TN-32	72-1021
TN-FSV	9277		
TN-68	9293		
MP-197	9302		

(Highlighting indicates casks evaluated by vendors in cask capability assessments.)

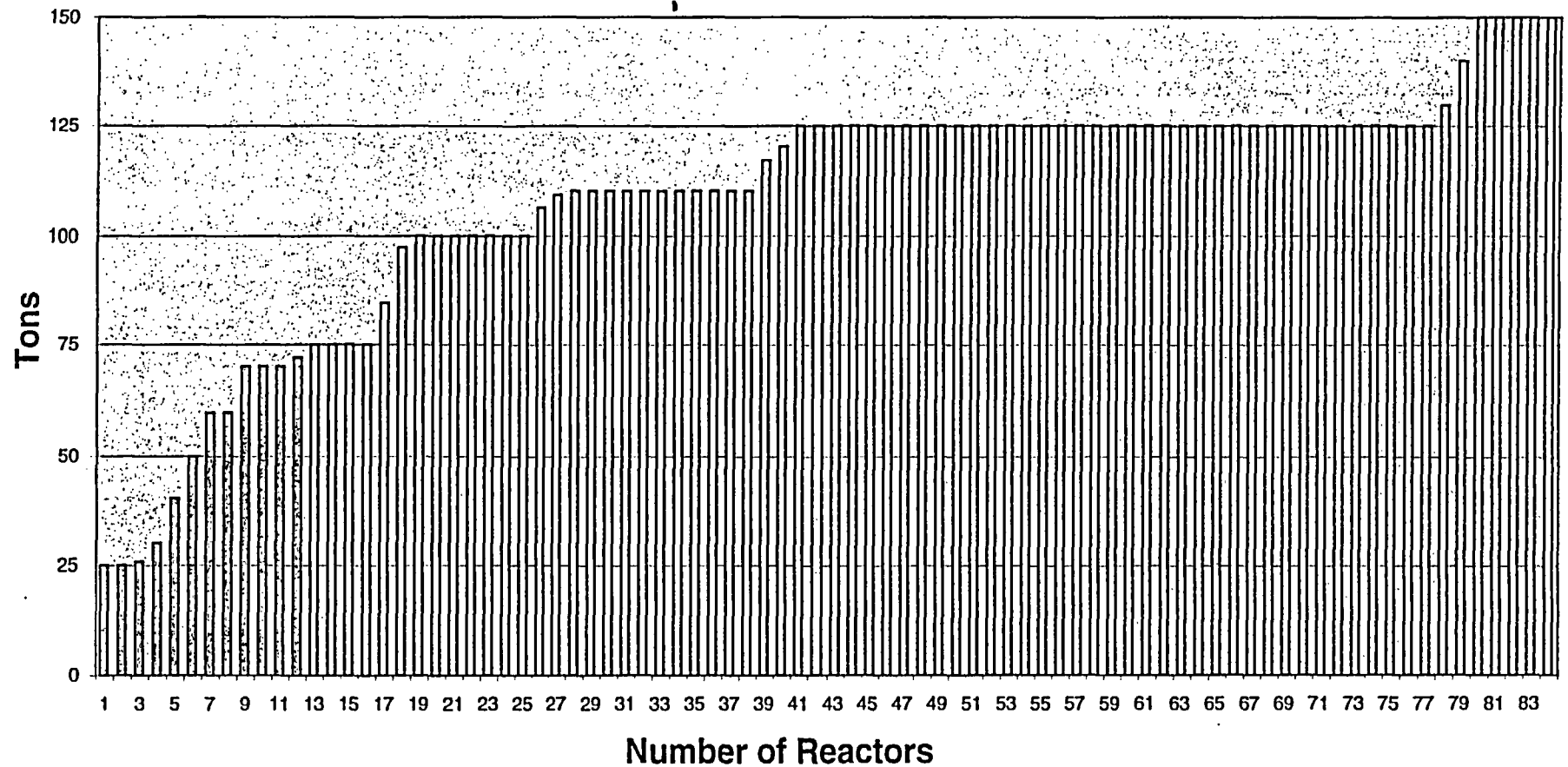


Cask Integration with Utilities

- Eighty-nine out of 119 facilities provided responses to infrastructure questions sent out in March 2004
- Preliminary analysis indicates that less than 57 percent of the inventory is located at facilities with site infrastructure to accommodate large rail transportation casks
- Less than 30 percent of the inventory is compatible with current rail cask CoC's and is located at facilities with adequate site infrastructure
- Additional studies of planned utility upgrades to accommodate dry storage systems will be undertaken to reevaluate their ability to handle large casks



Utility Reactor Crane Capacities



Conclusions Regarding Commercial Spent Nuclear Fuel

- Analysis of the vendor's cask capability reports has shown that a suite of existing casks from several vendors could transport upwards of 60 percent of the projected commercial inventory
- Preliminary analysis by the vendors indicated that CoCs could be modified to accommodate more than 90 percent of the commercial SNF inventory, based on SNF characteristics, alone
 - However, site infrastructure limitations reduce this number



DOE Spent Nuclear Fuel and High-Level Waste Conclusions

- **Casks exist today that are technically capable of transporting DOE waste material**
 - Generally, the thermal, structural, and shielding requirements for commercial SNF bound those of the DOE material
- **New internal basket designs could be developed to accommodate the DOE canisters**
 - Certificate modifications will be required for the new baskets
- **DOE fuel will only be shipped in canisters during the first five years**



NRC Certification Needs

- Continued integration planning efforts will be undertaken to reduce the number of new casks for NRC review and certification
- ONT will not begin procuring new, or revised CoC's before late in FY05. Resulting vendor applications to the NRC should not be expected before FY06





U.S. Department of Energy
Office of Civilian Radioactive Waste Management



Quality Assurance Overview

Presented to:
DOE/NRC Quarterly Management Meeting

Presented by:
R. Dennis Brown
Director, Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

November 22, 2004
Rockville, Maryland

Quality Assurance Overview

- **Quality Assurance Requirements and Description (QARD) Status**
- **Corrective Action Program (CAP) Oversight**
- **Office of Quality Assurance (OQA) Audits/Surveillances**
- **Management & Operating (M&O) Contractor Quality Assurance (QA) Audits/Surveillances**
- **Environmental Management (EM) Activities**
- **Naval Nuclear Propulsion Program (NNPP) Oversight**
- **Trend Evaluation and Reporting**



Quality Assurance Requirements and Description Status

- **Quarterly QA Meeting with NRC on
September 29, 2004**
 - Waste Custodian interfaces
 - Part 21 Commercial Grade Item Dedication
 - Records Retention
 - Supplier QA Records
 - ISO Procurements
- **Currently being reviewed by NRC**



Corrective Action Program Oversight

- M&O QA reviewing 100 percent of Level C Condition Reports (CRs)
- Seven M&O QA surveillances completed, 6 CAQs
- OQA observed four M&O QA surveillances – Oversight adequate
- OQA reviewing 100 percent of DOE Level C CRs
- OQA Corrective Action Program Audit (Compliance/Performance based)



Office of Quality Assurance Audits/Surveillances

- **Completed Surveillances**
 - **Software Quality Assurance - Procedures are effectively implemented, No CAQs**
 - **Analysis Model Reports - Procedures are effectively implemented, No CAQs**



Office of Quality Assurance Audits/Surveillances

(Continued)

- **Upcoming OQA Audits through March 2005**
 - **Preclosure Safety Analysis (Performance based)**
 - **Qualification, Indoctrination, and Training (Compliance based)**
 - **Audit of BSC Las Vegas Activities (Compliance based)**



Management and Operating Contractor Quality Assurance Audits/Surveillances

- **Completed M&O QA Audits**
 - Analysis Model Report (AMR) Review and Records Processing (Compliance based) - Procedures effectively implemented, 1 CAQ
- **Completed M&O QA Surveillances**
 - Data Confirmation Package, 1 CAQ
 - Model Validation (2), No CAQs
 - Development of Waste Package Specification, No CAQs
 - Verification of Education and Experience (VoEE) for Software and Science Personnel (2), 1 CAQ
 - Design and Engineering processes (8), 6 CAQs
 - Effectiveness of CR 1720 Corrective Actions



Management and Operating Contractor Quality Assurance Audits/Surveillances

(Continued)

- **Upcoming M&O QA Audits through March 2005**
 - **Implementing Documents (Compliance based)**
 - **Software QA (Compliance based)**
 - **Site Activities (Compliance based)**
 - **BSC Procurement Process (Performance based)**
 - **BSC Organizational and QA Program Activities (Compliance based)**



Management and Operating Contractor Quality Assurance Audits/Surveillances

(Continued)

- **Upcoming M&O QA Surveillances**
 - **Data Confirmation Packages of Select Models**
 - **Criticality Calculations**
 - **Maintenance of Q-List**
 - **Design and Engineering Process (6)**
 - **CAP Processing of CRs (4)**



Office of Environmental Management Activities

- **Completed**
 - Limited Scope Audit Savannah River High-Level Waste (HLW) - QA Program is effectively implemented, 2 CAQs
- **In progress**
 - Desktop Audit of Office of River Protection HLW
- **Planned**
 - National Spent Nuclear Fuel Program (Idaho) - February 2005



Naval Nuclear Propulsion Program Oversight

- **Annual Program Review**
 - Completed June 2004
 - NNPP QA Program acceptable
- **OQA Observation Activities**
 - Four observations performed
 - No issues identified
- **New Procedure**
 - In draft
 - Formalizes OQA process for program review and observation



Trend Evaluation and Reporting

- **Improvements in Self-reporting**
 - More Condition Reports being self-identified
 - Over 80 percent of the CRs are level C (“find and fix”)
- **Human Performance is a dominant causal factor (55 percent)**
- **Six procedures causing 60 percent of problems**
- **Emerging Issue**



Office of Quality Assurance Organization

